general population studies, a disease can nevertheless be found to be tied in some way to the HLA complex. As the HLA story continues to unfold, we will learn more about these important antigens in ophthalmology.

IRVING H. LEOPOLD, MD, DSc

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Automated Perimetry

AUTOMATED PERIMETRY, like computerized axial tomography (CAT scan), is one of the exciting newer developments from the computer age. Ophthalmologists for years have purchased numerous perimetric devices in an attempt to more efficiently evaluate visual field defects. Since 1975 we have had the opportunity at the University of California, Davis to help design and evaluate several of these automated perimeters. Our initial skepticism about automated perimetry has been replaced by genuine optimism. We are inclined to agree with Fankhauser and associates and Heijl and co-workers who found automated screening superior to conventional kinetic perimetry.

The ideal automated perimeter should offer several advantages over manual techniques and include the following features: (1) precise detection and assessment of visual field defects of all types with a negligible false alarm rate, (2) accurate monitoring of progressive visual field loss, (3) standardization of stimulus conditions in test procedures, (4) electronic monitoring of eye movement, (5) reduction in examination time, (6) administration of testing procedures by persons with minimal or no perimetric training and (7) reasonable purchase price.

Unfortunately, physicians have been inundated by a variety of first generation automated perimeters. Because decisions about treatment modalities are frequently based on perimetric data, we feel it is mandatory that these perimeters be validated by controlled clinical studies to assess whether they fulfill the criteria for an ideal automated perimeter. Without such controlled published data, a physician will not be able to make an intelligent decision as to which automated perimeter is appropriate for his or her practice. This is no small decision because automated perimeters can range in price from $4,000 to $100,000.

Most automated perimeters use a static or suprathreshold static program. Some devices have kinetic programs but the versatility of static programs is becoming evident. Goldmann kinetic perimetry is the well established standard. However, it is likely that when physicians become familiar with static testing, the advantages of static and suprathreshold static perimetry may well replace kinetic programs.

In summary, the usefulness of automated perimetry is a reality. When automated perimeters are properly used and their findings validated by controlled studies, they can be excellent detectors of visual field defects. The assessment of visual field defects is somewhat limited, however, by the automated perimeters available at present. Nonetheless, as newer generations of automated perimeters are developed, it actually may be possible to see a computerized three-dimensional view of the island of vision with scotomas scooped out of the island. In the future, there may be nothing about visual fields left to the imagination.

JOHN L. KELTNER, MD
CHRIS A. JOHNSON, MD

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Lasers in Ophthalmology

HISTORICALLY, ruby lasers were the first lasers used clinically in ophthalmology. A ruby laser utilizes the photostimulation of a ruby crystal to produce coherent red light. More recently, argon lasers have gained general acceptance over other visible spectrum laser systems. This type of laser utilizes electrical stimulation or argon gas to produce a coherent green beam that is dependent